

#### **ELEMENT SUMMARY INFORMATION**

**Element:** 1.1.2 Appropriate Operational Equipment

**Purpose of this Element** (Air Carrier's responsibility): To ensure that aircraft are equipped to conduct safe operation over the intended route.

**Objective** (FAA responsibility): To determine if the Air Carrier adheres to its procedures and controls for the Appropriate Operational Equipment.

#### **Inputs:**

- Intended Route
- Make, model, series of aircraft
- Ground navigation and communication

#### **Outputs:**

• An aircraft equipped to operate safely over intended routes

#### **Performance Measures:**

- The Air Carrier creates and maintains an accurate document that specifies operational equipment for each make, model and series by intended route.
- Each make, model, and series aircraft is equipped in accordance with the document that specifies operational equipment by intended route.
- The Air Carrier document includes diagrams showing the specific location of the operational equipment for each make, model and series aircraft by intended route.

#### SRR:

- 91.703 (a)(4) Operations of civil aircraft of U.S. registry outside of the United States
- 91.705 (a) Operations within airspace designated as Minimum Navigation Performance Specifications Airspace.
- 91.706 (a)(1) Operations within airspace designated as Reduced Vertical Separation Minimum Airspace
- 121.161 (a, b) Aircraft Requirements: Airplane limitations: Type of route
- 121.309 (c-d), (f) Instrument and Equipment Requirements: Emergency equipment
- 121.311 (a) Instrument and Equipment Requirements: Seats, safety belts, and shoulder harnesses
- 121.323 (b-f) Instrument and Equipment Requirements: Instruments and equipment for operations at night
- 121.325 (a-c) Instrument and Equipment Requirements: Instruments and equipment for operations under IFR or over-the-top
- 121.327 (a) Instrument and Equipment Requirements: Supplemental oxygen; Reciprocating engine powered airplanes
- 121.329 (a) Instrument and Equipment Requirements: Supplemental oxygen for sustenance; Turbine engine powered airplanes
- 121.331 (a) Instrument and Equipment Requirements: Supplemental oxygen requirements for pressurized cabin airplanes: Reciprocating engine powered airplanes
- 121.333 (a) Instrument and Equipment Requirements: Supplemental oxygen for emergency descent and for first aid: Turbine engine powered airplanes with pressurized cabins
- 121.335 (a, b) Instrument and Equipment Requirements: Equipment standards
- 121.339 (a)(1-4), (b), (c) Instrument and Equipment Requirements: Emergency equipment for extended overwater operations
- 121.340 (a, b) Instrument and Equipment Requirements: Emergency flotation means
- 121.341 (a) Instrument and Equipment Requirements: Equipment for operations in icing conditions
- 121.343 (a-g) Instrument and Equipment Requirements: Flight records
- 121.349 (e) Instrument and Equipment Requirements: Radio equipment for operations under VFR over routes not navigated by pilotage or operations under IFR or over-the-top
- 121.351 (a), (b) Instrument and Equipment Requirements: Radio and navigation equipment for extended overwater operations and for certain other operations
- 121.353 (a-c) Instrument and Equipment Requirements: Emergency equipment for operations over uninhabited terrain areas: Flag, supplemental, and certain domestic operations
- 121.355 (a) Instrument and Equipment Requirements: Equipment for operations on which specialized means of navigation are used
- 121.358 (a, b) Instrument and Equipment Requirements: Low-altitude windshear system equipment requirements
- 121.359 (e) Instrument and Equipment Requirements: Cockpit voice recorders
- 121.361 (b) Maintenance, Preventive Maintenance, and Alterations: Applicability
- 121.549 (a, b) Flight Operations: Flying equipment
- 121.578 (b) Flight Operations: Cabin Ozone concentration
- 121.579 (c) Flight Operations: Minimum altitude for use of autopilot
- 121.581 (a, c) Flight Operations: Observer's seat; enroute inspections

• 121.605 Dispatching and Flight Release Rules: Airplane equipment

#### Other CFRs and/or FAA Guidance:

- CFR 121.340 (b), Over water approval without floatation devices.
- Part 1- Definitions and Abbreviations
- Part 91, Appendix G, Operations in Reduced Vertical Separation Minimum (RVSM) Airspace.
- Part 91, Appendix C Operations in the North Atlantic (NAT) Minimum Navigation Performance Specifications (MNPS) Airspace
- Refer to appropriate Advisory Circulars

#### **SRR SPECIFIC INFORMATION**

SRR	Intent	
121.339 (a) (1-4)	To ensure that aircraft operated in extended over water operations are equipped with:  - life preserver equipped with locator for each occupant of the aircraft.  - Enough life rafts with locator lights to accommodate occupants  - At least one pyrotechnic signaling device in each raft.	Certification: Airworthiness Surveillance: Airworthiness
121.339 (b)	To ensure emergency equipment must be easily accessible and installed in well-marked locations.	Certification: Airworthiness Surveillance: Airworthiness
121.339 (c)	To ensure that survival kit must be equipped for the route flown and attached to each life raft.	Certification: Airworthiness Surveillance: Airworthiness
121.340 (a)	To ensure the aircraft is equipped with approved flotation means during any over water operations.	Certification: Airworthiness Surveillance: Airworthiness
121.349 (e)	To ensure the Air Carrier's aircraft is equipped with radio communication and navigational equipment capable of long range communication and navigation when operating in extended over water operations. (This only applies to Air Carriers operating aircraft of 10-30 seats and 7500lbs. or less.)	Certification: Avionics Surveillance: Avionics
121.351 (a)	To ensure each operator has required radio/navigational equipment to assure safe operation for extended over water and in designated uninhabited terrain.	Certification: Avionics Surveillance: Avionics
121.161 (a)	To prohibit extended over water operations with two or three engine aircraft in excess of one hour, unless it is three engine turbine powered or is operated under ETOPS program.	Certification: Airworthiness Surveillance: Airworthiness
121.161 (b)	To prohibit extended over water operations unless it is equipped in accordance with Part 25 for ditching (except for those aircraft specified in this subsection).	Certification: Airworthiness Surveillance: Airworthiness
121.578 (b)	To prevent aircraft from operating at altitudes where ozone is present without a device to protect passengers from ozone.	Certification: Airworthiness Surveillance: Airworthiness

SRR	Intent	
121.579 (c)	To require the Air Carrier to have an approved flight control guidance system with automatic capability when operating Category II and Category III.	Certification: Avionics Surveillance: Avionics
91.703 (a)(4)	To ensure that an Air Carrier operating within air space designated as Minimum Navigational Performance Specification complies with 91.705	Certification: Avionics Surveillance: Avionics
91.703 (a)(4)	To ensure that an Air Carrier operating within air space designated as Reduced Vertical Separation Minimum complies with 91.706.	Certification: Avionics Surveillance: Avionics
91.705 (a)	To ensure that each U.S. registered Aircraft operated in Minimum Navigation Performance Specifications air space has approved navigational performance capability that complies with Section 3, Appendix C, Part 91.	Certification: Avionics Surveillance: Avionics
91.706 (a)(1)	To ensure that an Air Carrier operating within air space designated as Reduced Vertical Separation Minimum complies with Appendix G, Part 91.	Certification: Avionics Surveillance: Avionics
121.309 (c-d), (f)	TBD	Certification: Surveillance:
121.311 (a)	TBD	Certification: Surveillance:
121.323 (b-f)	TBD	Certification: Surveillance:
121.325 (a-c)	TBD	Certification: Surveillance:
121.327 (a)	TBD	Certification: Surveillance:
121.329 (a)	TBD	Certification: Surveillance:
121.331 (a)	TBD	Certification: Surveillance:
121.333 (a)	TBD	Certification: Surveillance:
121.335 (a, b)	TBD	Certification: Surveillance:
121.340 (b)	TBD	Certification: Surveillance:
121.341 (a)	TBD	Certification: Surveillance:

121.343 (a-g)	TBD	Certification:
		Surveillance:
121.349 (e)	TBD	Certification:
		Surveillance:
121.549 (b)	TBD	Certification:
		Surveillance:
121.353 (a-c)	TBD	Certification:
		Surveillance:
121.355 (a)	TBD	Certification:
		Surveillance:
121.358 (a, b)	TBD	Certification:
		Surveillance:
121.359 (e)	TBD	Certification:
		Surveillance:
121.361 (b)	TBD	Certification:
		Surveillance:
121.578 (b)	TBD	Certification:
		Surveillance:
121.579 (c)	TBD	Certification:
		Surveillance:
121.581 (a, c)	TBD	Certification:
		Surveillance:
121.605	TBD	Certification:
		Surveillance:

1.1.2 Appropriate Operational Equipment				
SE	SECTION 1 - RESPONSIBILITY ATTRIBUTE			
	Objective: To determine if there is a clearly identifiable, qualified, and knowledgeable person who is accountable for the quality of the Appropriate Operational Equipment process.			
То	meet this objective, the inspector will accomplish the following tasks:			
1.	Identify the person who is responsible for the quality of the Appropriat process.	e O	peratio	nal Equipment
2.	Review the description in the Manual that delineates the duties and response	pon	sibilitie	s of the person.
3.	Evaluate the person's qualifications and work experience (or resume', i	f ap	propria	ite).
4.	Review the appropriate organizational chart.			
5.	Discuss the Appropriate Operational Equipment process with the person	n.		
То	meet this objective, the inspector will determine and record answers to	the	followi	ng questions:
1.	Is there a clearly identifiable person who is answerable for the quality of the Appropriate Operational Equipment process?		YES name:	If yes, provide the
2	Does the person understand the procedures associated with the		No YES	If no, explain: If no, explain:
	Appropriate Operational Equipment process?		- 200	ii no, expiani:
3.	Does the person understand the associated with the Appropriate Operational Equipment process?		YES	If no, explain:
4.	Does the person understand the interfaces associated with the Appropriate Operational Equipment process?			If no, explain:
5.	Does the person understand the process measurements associated with the Appropriate Operational Equipment process?		YES No	If no, explain:
6.	Is the responsibility of this position clearly documented in the air carrier's Manual(s)?		YES No	If no, explain:
7.	Are the qualification standards for this position clearly documented?		YES No	If no, explain:
7a	Are the qualification standards for this position appropriate for the duties that are assigned?			If no, explain:
8.	Does the person meet the qualification standards?		YES No	If no, explain:
9.	Does the person acknowledge that he/she has responsibility for the Appropriate Operational Equipment process?		YES No	If no, explain:
10.	Does the person know who has authority to establish and modify the Appropriate Operational Equipment process?		YES NO	If no, explain:

1.1.2 Appropriate Operational Equipment			
SECTION 2 – AUTHORITY ATTRIBUTE			
Objective: To determine if there is a clearly identifiable, qualified, and knowledgeable person with the authority to establish and modify the Appropriate Operational Equipment process.			
To meet this objective, the inspector will accomplish the following tasks:			
1. Identify the person who has the authority to establish or modify the Ap Equipment process.	ppropriate Operational		
2. Review the description in the Manual that delineates the duties and res	sponsibilities of the person.		
3. Evaluate the person's qualifications and work experience (or resume',	if appropriate).		
4. Review the appropriate organizational chart.			
5. Discuss the Appropriate Operational Equipment process with the personal Equipment	on.		
To meet this objective, the inspector will determine and record answers to	the following questions:		
1. Is there a clearly identifiable person who has authority to establish and modify the air carrier's policies for the Appropriate Operational Equipment process?	YES If yes, provide the name:  No If no, explain:		
<ol> <li>Does the person understand the procedures associated with the Appropriate Operational Equipment process?</li> </ol>	YES If no, explain:		
3. Does the person understand the controls associated with the Appropriate Operational Equipment process?	YES If no, explain:		
4. Does the person understand the interfaces associated with the Appropriate Operational Equipment process?	YES If no, explain:		
5. Does the person understand the process measurements associated with the Appropriate Operational Equipment process?	YES If no, explain:		
6. Is the authority of this position clearly documented in the air carrier's Manual(s)?	YES If no, explain:		
7. Are the qualification standards for this position clearly documented?	YES If no, explain:		
7a Are the qualification standards for this position appropriate for the duties that are assigned?	YES If no, explain:		
8. Does the person meet the qualification standards?	YES If no, explain:		
9. Does the person acknowledge that he/she has authority for the Appropriate Operational Equipment process?	YES If no, explain:		
10. Does the person know who has the responsibility for the Appropriate Operational Equipment process?	YES If no, explain:		
11. Are the procedures for delegation of authority clearly documented for the Appropriate Operational Equipment process?			

1.1.2 Appropriate Operational Equipment			
SECTION 3 – PROCEDURES ATTRIBUTE			
Objective: To determine if the air carrier has documented procedures for accomplishing the Appropriate Operational Equipment process.			
To meet this objective, the inspector will accomplish the following tasks.	•		
1. Review the documented instructions and information related to the A Equipment process to ensure that they contain who, what, where, who is the contain which we can be contained which which we can be contained where the contain which we can be contained where the contain which we can be contained where the contained contained w			
2. Review the FAA Guidance and Specific Regulatory Requirements (Supplemental information section of this SAI.	SRR)	inclu	ided in the
3. Discuss the Appropriate Operational Equipment process with appropunderstanding of the procedures.	riate	perso	onnel to gain an
4. Observe the Appropriate Operational Equipment process to gain an u	ındeı	rstand	ing of the procedures.
To meet this objective, the inspector will determine and record answers	to th	e follo	owing questions:
1. Do written procedures exist to achieve the desired result of the Appr process:	opria	ite Op	erational Equipment
1.1 Do written procedures require the Air Carrier to maintain an up-to-date document that specifies all required operational equipment for each make, model, and series aircraft by intended route? [SRR 91.703 (a)(4), 91.705 (a), 91.706 (a) (1), 121.161 (a), 121.339(a)(1)(2)(3)(4), 121.340 (a), 121.349 (e), 121.351(a)(b), 121.578(b), 121.579(c)].		YES NO N/A	If no or N/A, explain:
1.2 Do written procedures require the Air Carrier to track operational equipment on each aircraft including the equipment's inspection status?[SRR 121.339 (a)(b)(c)]		YES NO N/A	If no or N/A, explain:
1.3 Do written procedures require the Air Carrier to maintain and use an equipment chart that identifies the location of removable operational equipment in each make, model, and series of aircraft? [SRR 121.339 (a)(b)(c)]		YES NO N/A	If no or N/A, explain:
2. Do the procedures identify: who, what, where, when and how?		YES No	If no, explain:
3. Are the procedures in compliance with the CFR(s)?		YES No	If no, explain:
4. Do the procedures conform to other written guidance (E.g., Operations Specifications, FAA Orders, Airworthiness Directives, Advisory Circulars, Handbook Bulletins, Directives, and Manufacturer's Recommendations)?		YES No	If no, explain:
5. Does the air carrier have the resources to support the written procedures for the Appropriate Operational Equipment process?		YES No	If no, explain:
6. If alternate procedures exist for use during irregular conditions do they achieve the same desired results as the primary procedures so		YES No	If no, explain:
that an equivalent level of safety is maintained? (E.g., a manual system used as a result of equipment failure).		N/A,	No alternate procedures for this element

1.1	1.1.2 Appropriate Operational Equipment		
SI	ECTION 3 – PROCEDURES ATTRIBUTE		
7.	Are the procedures published in different manuals relating to the Appropriate Operational Equipment process consistent?	☐ YES ☐ NO	If no, explain:
8.	Does the air carrier have a documented method for assessing the impacts of procedural changes to the Appropriate Operational Equipment process?	☐ YES ☐ NO	If no, explain:

1.1.2 Appropriate Operational Equipment			
SECTION 4 – CONTROL ATTRIBUTE			
<b>Objective:</b> To determine if checks and restraints are designed into the Appropriate Operational Equipment process to ensure a desired result is achieved.			
To meet this objective, the inspector will accomplish the following tasks:			
1. Review the documented instructions and information related to the A Equipment process.	Appropriate Operational		
2. Review the FAA Guidance and Specific Regulatory Requirements (S supplemental information section of this SAI	SRR) included in the		
3. Discuss the Appropriate Operational Equipment process with appropunderstanding of the controls.	-		
4. Observe the Appropriate Operational Equipment process to gain an u	inderstanding of the controls.		
To meet this objective, the inspector will determine and record answers	to the following questions:		
1. Are the following checks and restraints built into the Appropriate Op	perational Equipment process:		
1.1 Does the Air Carrier provide Dispatch/Flight Following with current information on the operational equipment status installed on each aircraft? [SRR 121.339 (a) (b)(c),121.340 (a), 121.349(e), 121.351(a)(b)]	☐ YES If no or N/A, explain: ☐ NO ☐ N/A		
1.2 Does the Air Carrier have an up-to-date document that specifies the operational equipment needed on board an aircraft (e.g., ETOPS, RVSM, extended over water, lower landing minimums, long-rang communication and navigation equipment. [SRR 91.703 (a)(4), 91.705 (a), 91.706 (a) (1),121.161 (a), 121.339(a)(1)(2)(3)(4), 121.340 (a), 121.349 (e), 121.351(a)(b)].	☐ YES If no or N/A, explain: ☐ NO ☐ N/A		
1.3 Does the document that describes the operational equipment requirements contain charts that show the location of removable equipment.[SRR 121.139 (b)]	☐ YES If no or N/A, explain: ☐ NO ☐ N/A		
2. Do the checks and restraints ensure the desired result is achieved for the Appropriate Operational Equipment process?	YES If no, explain: No		
3. Does the air carrier have a documented method for assessing the impacts of any changes made to checks and restraints in the Appropriate Operational Equipment process?	☐ YES If no, explain: ☐ NO		
4. Does the air carrier have the resources to support the checks and restraints for the Appropriate Operational Equipment process?	YES If no, explain:		

1.1	1.1.2 Appropriate Operational Equipment		
SECTION 5 - PROCESS MEASUREMENT ATTRIBUTE			
Ol	bjective: To determine if the air carrier measures and assesses the App puipment process, to identify and correct problems or potential problem	ropriate Operational	
То	meet this objective, the inspector will accomplish the following tasks:		
1.	Review the documented instructions and information related to the A Equipment process.	ppropriate Operational	
2.	Discuss the Appropriate Operational Equipment process with appropunderstanding of the process measures.	riate personnel to gain an	
3.	Observe the Appropriate Operational Equipment process to gain an umeasures.	inderstanding of the process	
То	meet this objective, the inspector will determine and record answers t	to the following questions:	
1.	<deleted></deleted>		
2.	2. Does the air carrier's Appropriate Operational Equipment process include the following process measurements?		
	2.1 The Air Carrier audits the operational equipment document to ensure its accuracy	☐ YES If no or N/A, explain: ☐ NO ☐ N/A	
	2.2 The Air Carrier audits the status of the aircraft against the document to ensure the aircraft is equipped for its intended route	☐ YES If no or N/A, explain: ☐ NO ☐ N/A	
3.	Does the air carrier document their process measurement methods and results?	YES If no, explain:	
4.	Are the air carrier's process measurement methods effective?	YES If no, explain: No	
5.	Does the air carrier use their process measurement results to improve their programs?	YES If no, explain:	
6.	Are the process measurement results accessible to the FAA?	YES If no, explain:	
7.	Does the organization that conducts the process measurement have direct access to the person with responsibility for the Appropriate Operational Equipment process?	YES If no, explain: No	
8.	Does the air carrier have the resources to support the process measurement for the Appropriate Operational Equipment process?	YES If no, explain:	

1.1.2 Appropriate Operational Equipment			
SECTION 6 – INTERFACES ATTRIBUTE			
Objective: To determine if the air carrier identifies and manages the interactions between the Appropriate Operational Equipment process and the other element processes within the air carrier organization.			
To meet this objective, the inspector will accomplish the following tasks:			
1. Review the documented instructions and information related to the A Equipment process.	Appropriate Operational		
2. Discuss the Appropriate Operational Equipment process with appropunderstanding of the interfaces.	riate personnel to gain an		
3. Observe the Appropriate Operational Equipment process to gain an u	understanding of the interfaces.		
To meet this objective, the inspector will determine and record answers	to the following questions:		
1. Are the following interfaces identified for the Appropriate Operation	al Equipment process:		
1.1 Aircraft Airworthiness Requirements (Element 1.1.1)	☐ YES If no or N/A, explain: ☐ NO ☐ N/A		
1.2 Log Book Entry (Element 1.2.1)	☐ YES If no or N/A, explain: ☐ NO ☐ N/A		
1.3 Maintenance Log Recording Requirements (Element 1.1.3)	☐ YES If no or N/A, explain: ☐ NO ☐ N/A		
1.4 Aircraft listing (Element 1.2.6)	☐ YES If no or N/A, explain: ☐ NO ☐ N/A		
1.5 Maintenance Program (Element 1.3.1)	☐ YES If no or N/A, explain: ☐ NO ☐ N/A		
1.6 Inspection Program (Element 1.3.2)	☐ YES If no or N/A, explain: ☐ NO ☐ N/A		
1.7 MEL/CDL Deferred Maintenance (Element 1.3.5)	☐ YES If no or N/A, explain: ☐ NO ☐ N/A		
1.8 Outsource Organizations (Element 1.3.7)	☐ YES If no or N/A, explain: ☐ NO ☐ N/A		
1.9 Parts/Material Control/SUP (Element 1.3.10)	YES If no or N/A, explain: NO		

1.1.2 Appropriate Operational Equipment			
SECTION 6 – INTERFACES ATTRIBUTE			
1.10 Continuous Analysis and Surveillance (Element 1.3.11)	YES If no or N/A, explain: NO N/A		
1.11 GMM/Equivalent (Element 1.3.14)	YES If no or N/A, explain:		
1.12 Other programs approved by Operations Specifications	☐ N/A ☐ YES If no or N/A, explain: ☐ NO		
1.13 Weight and Balance Program (Element 1.3.17)	☐ YES If no or N/A, explain: ☐ NO		
1.14 Currency (Element 2.1.1)	☐ YES If no or N/A, explain: ☐ NO		
1.15 Content and Consistency Across Manuals (Element 2.1.2)	☐ YES If no or N/A, explain: ☐ NO		
1.16 Distribution (Element 2.1.3)	☐ YES If no or N/A, explain: ☐ NO		
1.17 Availability (Element 2.1.4)	☐ N/A ☐ YES If no or N/A, explain: ☐ NO		
1.18 Flight Attendant Duties/Cabin Procedures (Element 3.1.2)	☐ YES If no or N/A, explain: ☐ NO		
1.19 Airmen Duties/Flight Deck Procedures (Element 3.1.3)	☐ N/A ☐ YES If no or N/A, explain: ☐ NO ☐ N/A		
1.20 Operational Control (Element 3.1.4)	☐ YES If no or N/A, explain: ☐ NO ☐ N/A		
1.21 Continuous Analysis and Surveillance (Element 3.1.11)	YES If no or N/A, explain: NO N/A		
1.22 Dispatch or Flight Release (Element 3.2.1)	YES If no or N/A, explain: NO N/A		

1.1.2 Appropriate Operational Equipment		
SECTION 6 – INTERFACES ATTRIBUTE		
1.23 Flight/Load Manifest/weight and Balance Control (Element 3.2.2)	YES If no or N/A, explain: NO N/A	
1.24 MEL/CDL Procedures (Element 3.2.3)	YES If no or N/A, explain: NO N/A	
1.25 RII Personnel (Element 4.1.1)	YES If no or N/A, explain: NO N/A	
1.26 RII Training Requirements (Element 4.2.2)	☐ YES If no or N/A, explain: ☐ NO ☐ N/A	
1.27 Training of Flight Crewmembers (Element 4.2.3)	☐ YES If no or N/A, explain: ☐ NO ☐ N/A	
1.28 Training of Flight Attendants (Element 4.2.4)	☐ YES If no or N/A, explain: ☐ NO ☐ N/A	
1.29 Training of Dispatchers (Element 4.2.5)	☐ YES If no or N/A, explain: ☐ NO ☐ N/A	
1.30 Director of Maintenance (Element 7.1.1)	☐ YES If no or N/A, explain: ☐ NO ☐ N/A	
1.31 Director of Operations (Element 7.1.4)	☐ YES If no or N/A, explain: ☐ NO ☐ N/A	
1.32 Maintenance Control (Element 7.1.6)	☐ YES If no or N/A, explain: ☐ NO ☐ N/A	
2. List any additional interfaces identified:	1	
3. Are there written procedures for the use of air carrier personnel in the application of these interfaces?	YES If no, explain:	
4. Are there controls to ensure that interfaces occur?	YES If no, explain:	
5. Are the interfaces between the Appropriate Operational Equipment process and other processes treated consistently in the Manual(s)?	YES If no, explain:	